# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/224,382 | 12/31/1998 | RAGHUNATH IYER | 003813.P003 | 3756 |

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STATTLER JOHANSEN & ADELI
P O BOX 51860
PALO ALTO, CA 94303

| EXAMINER |
|---|
| FOLLANSBEE, JOHN A |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2154 | 11 |

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _16 January 2002_.

2a)☒ This action is **FINAL**.        2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-10 and 28-32_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-10, and 28-32_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Application Number: 09/224,382
Art Unit: 2154

## DETAILED ACTION

1.      Claims 1-10 and 28-32 are presented for examination. Claims 11-27 have been cancelled.

2.      Claim 28 is objected as being dependent on a cancelled claim (i.e., 19). For examination purposes the examiner will assume claim 28 is dependent on claim 1.

3.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.      Claims 1-4, 6, 8-10 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshman et al. (5,951,651) (hereinafter Lakshman) in view of Abraham et al. (5,983,270) (hereinafter Abraham).

5.      As per claim 1, Lakshman teaches the use of a method of performing network packet filtering (e.g. abstract), said method comprising:

dividing a set of rules to generate a set of rule ranges along N dimensions (e.g. col. 3);

1

dividing each of said N dimensions into rule ranges using said set of rules (e.g. col. 3);

generating a set of possible rules for each rule range in each of said N dimensions (e.g. col. 3);

searching the rule ranges along said N dimensions in parallel to generate N sets of possible rules along said N dimensions (e.g. cols. 3 and 5);

logically combining said N sets of possible rules to generate a final set of possible rules (e.g. cols. 2, 3 and 5); and

applying said final set of possible rules (e.g. cols. 2, 3 and 5)

wherein the rules can specify a new dimension or can not specify a new dimension (e.g. col. 3).

Lakshman does not specifically show the use of repeating the above steps when a new rule is added. Abraham shows the use of adding new rules to a packet filter (e.g. col. 43, lines 23-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Abraham with Lakshman because it would provide for the dynamic ability to add new rules to the packet filter. Specifically, with the increase in spam and is advantageous to add the newest available packet filtering rules to prevent the users system from being overrun with the spam.

2

6.      As per claim 2, Lakshman teaches the use of generating a rule bit vector for each

rule range along each of said N dimensions (e.g. cols. 2, 3 and 5).


7.      As per claim 3, Lakshman teaches the use of generating a search structure for

each set of rule ranges along each of said N dimensions  to locate a specific rule range

(e.g. cols. 2, 3 and 5).


8.      As per claim 4, Lakshman teaches the use of one of said search structures

comprises a look-up table (e.g. figure 6).


9.      As per claim 6, Lakshman teaches the use of applying said final set of possible

rules comprises selecting a highest priority rule in said final set of possible rules (e.g.

col. 5).


10.     As per claim 8, Lakshman teaches the use of each of said N sets of possible

rules comprise a rule bit vector that specifies a set of rules that may apply (e.g. cols. 2,

3 and 5).


11.     As per claim 9, Lakshman teaches the use of said rule bit vectors are logically

ANDed together to produce a final bit vector of rules that apply (e.g. col. 5).


3

12.    As per claim 10, it is rejected for similar reasons as stated above.

13.    As per claim 28, Lakshman shows the use of assigning each of said rule ranges a range identifier (e.g. cols. 2, 3, 4 and 5).

14.    As per claim 29, Lakshman teaches the use of said range identifier comprises a rule bit vector that specifies a set of rules that may apply to incoming data units that fall within the associated rule range (e.g. cols. 2, 3, 4 and 5).

15.    As per claim 30, they are rejected for similar reasons as stated above.

16.    As per claim 31, Lakshman teaches the use of said range identifier comprises an index value (e.g. cols. 4 and 5 and figure 6).

17.    As per claim 32, Lakshman teaches the use of said index values are used by a rule processor to index into a N dimensional look-up table for a final rule (e.g. cols. 2, 3, 4 and 5 and figure 6).

18.    Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshman et al. (5,951,651) (hereinafter Lakshman) in view of Abraham et al. (5,983,270) (hereinafter Abraham) and in further view of "Official Notice".

4

19.    As per claim 5, Lakshman shows the use of binary or the like searching (e.g. col.

4). Although the examiner believes that tree searching is an inherent feature of "binary

or the like searching", "Official Notice" is taken that both the concept and advantages of

providing for a tree search structure is well known and expected in the art. It would

have been obvious to one of ordinary skill in the art to include tree searching to

Lakshman because it would provide for efficient and fast searching by only using the

"0", "1" theory.

20.     As per claim 7, Lakshman shows only applying the highest priority rule, not more than one rule to the packet. "Official Notice" is taken that both the concept and advantages of providing for more than one rule is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include using more than one rule to the packet to Lakshman because it would provide for fast/efficient packet processing when the highest priority rule causes an error or fault.

21.     Applicant's remarks filed 1/16/02 have been considered but are moot in view of the new grounds of rejection necessitated by Applicant's amendment.

22.     Because Applicant has failed to seasonably challenge the examiners "Official Notices" they are now taken as Admitted Prior Art. MPEP 2144.03.

23.     Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.


        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to John Follansbee whose telephone number is (571) 272-

3964.

John Follansbee

February 8, 2005.                        JOHN FOLLANSBEE
                                         SUPERVISORY PATENT EXAMINER
                                         TECHNOLOGY CENTER 2100